THE EUGENICS REVIEW.

Commonsense in Racial Problems.

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It shows, I think, remarkable catholicity that the Eugenics Education Society should have invited me to deliver the Galton Lecture, inasmuch as though engaged in studies cognate with your own and of a kind which furnish some of the basic materials upon which the eugenist builds, I have never seen my way to take a definite part in its activities nor even to become a member of your body. In introduction I should like to explain the position which in common with several genetical colleagues both here and in the United States I have thought it best to maintain in this respect. Whoever is occupied with the practical investigation of genetic physiology can scarcely be out of sympathy with your objects. Witnessing, as such a man does every day of his life, the consequences of the working of the laws of heredity, the knowledge that the destinies of mankind are governed by the same laws is to him an all-pervading truth. Of this fact he needs no reminder. The course of heredity varies in detail with the organism and the characteristic under investigation, but the nature of the control which heredity exerts is the same in all living things. Every creature that has life arises by the division of a pre-existing cell, and the nature of the offspring will be determined by that of the parent until men gather grapes of thorns or figs of thistles. When the breeder watches the descent of qualities and of defects down the lines of his stock, to the layman it may seem that these things are merely parables, but the physiologist knows better. *De te fabula narratur.* Nevertheless the pursuit of truth is one thing and its application is another. Few have combined these objects with success. At least in the earlier stages of inquiry, to be committed even in general terms to anything savouring of a policy will not strengthen such authority as a worker may be able to claim in his own province.

The terms of your membership are very wide and commit to nothing beyond a desire to educate the world in a knowledge of the truth, a wholly admirable purpose, but corporations almost invariably come to hold, or to be credited with holding, corporate views and corporate principles, which are seldom in practice compatible with perfect freedom. The eugenist and the geneticist will, I am convinced, work most effectively without organic connexion, and though we have much in common we should not be brigaded together. Genetics are not primarily concerned with the betterment of the human race or other applications, but with a problem of pure physiology, and I am a little afraid that the distinctness of our aims may be obscured. Alliances between pure and applied science are as dangerous as those of spiders, in which the fertilising partner is apt to be absorbed.

The truth which the eugenist is urging upon a reluctant and unheeding world is in essence this: that the physiological fact of the diversity of mankind is of prime importance in every consideration of human affairs: that all measures for the regulation of public or private conduct which ignore this fundamental fact are entered upon in defiance of common sense, and that the consequences of such defiance are stupendous, and far-reaching to a degree that can as yet be only dimly estimated. Those who have comprehended and realised this manifest truth plead further that since the diversity of type is certainly transmitted to posterity according to fixed and ascertainable rules, it behoves the human race to make the phenomena of heredity and racial physiology the object of zealous study. The question at issue is whether the facts of physiology are to be ignored or to be accepted as the common ground from which conduct is to be directed. At the present time for the statesmen in whose hands the destinies of the world still remain, the facts of nature do not exist. Men are not animals propagated according to physiological systems, fixed like those of Chemistry or Astronomy, but voters, and how voters are propagated, with what consequence to themselves or to the succeeding generations it is superfluous to ask or consider.

I cannot better bring out the distinction between what may be called on the one hand the rational or natural, and on the other the conventional or political view of our problem than by reference to what passed on the occasion of a recent Galton Lecture. The Dean of St. Paul's delivered an address full of stimulus and penetration, indicating many indubitable consequences which recent legislation must certainly entail upon the composition of our population, results altogether outside the purview of those from whose action they ensue. Sir Auckland Geddes, in proposing the vote of thanks, after sufficiently indicating his own mode of thought by asking us to look with complacency on the danger of over-population—that overwhelming menace to the peace of the world and to the stability of civilisation—proceeded to affirm that "in politics, in the affairs with which Governments have to deal, it is not accurate knowledge that matters: it is emotion,"* concluding with an exhortation that we should let ourselves go on the great wave of emotion sweeping the nation towards the millenium which the Ministry of Reconstruction, unhampered by accurate knowledge, was then preparing for us. As I listened to that speech with its presumptuous repudiation of knowledge in favour of sentiment, my latent sympathies with the movement which Galton inaugurated were kindled into activity, and I am proud indeed to deliver a lecture in which his name is commemorated.

The charge most often brought against the eugenic doctrine is that it aims at perpetuating a rash and subversive interference with habits and manners in pursuit of some cold and calculated purpose. I suppose that that is what some people mean by eugenics. Foolish legislation passed or promoted in certain American States gives colour to such opinions. I have heard also of busybodies who, in the name of eugenics, have made some irresolute young people gratuitously

* Reported in *Eugenics Review* 1919, XI. p. 19.

miserable. That crude interpretation is, so far as I see, based neither on scientific fact nor on common sense. Everyone who has studied these problems at all would advise the State to put such control on the feeble-minded members of the population as to prevent their propagation. They are examples of a peculiar physiological condition, not very difficult to recognise, and when they interbreed, as at present they frequently do, they have no normal children but infallibly add to the asylum and institute population. As to the propriety and I may add the humanity of exercising control over these persons we are all agreed, but I know no warrant for direct legislative interference beyond that obvious and altogether special case.

The sterilisation of habitual criminals has been mooted in America. We require to know far more as to the genetics and aetiology of criminality before such a question can even be profitably discussed. Criminals are often feeble-minded, but as regards those that are not, the fact that a man is for the purposes of Society classed as a criminal tells me little as to his value, still less as to the possible value of his offspring. It is a fault inherent in criminal jurisprudence based on non-biological data that the law must needs take the nature of the offences rather than that of the offenders as the basis of classification. A change in the right direction has begun, but the problem is difficult and progress will be very slow. Pending the institution of a proper classification it must happen that we all know, or know of persons convicted, perhaps even habitually, whom the world could ill spare. Therefore I hesitate to proscribe the criminal. Proscription, we may remember, is a weapon with a very nasty recoil. Might not some with equal cogency proscribe army contractors and their accomplices the newspaper patriots? The crimes of the prison population are petty offences by comparison, and the significance we attach to them is a survival of other days. Felonies may be great events locally, but they do not induce catastrophes. The proclivities of the war-makers are infinitely more dangerous than those of the aberrant beings whom from time to time the law may dub as criminals. Consistent and portentous selfishness, combined with dulness of imagination are probably just as transmissible as want of self-control, though destitute of the amiable qualities not rarely associated with the genetic composition of persons of unstable mind.

Eugenics is represented as a cold and ascetic faith. It is expected that

> Priests in black gowns will be walking their rounds
> And binding with briars our joys and desires.

I must grant that the doctrine is easily capable of such perversion. Galton himself, in a well-known passage which I cannot read without a shudder, speaks of the Bohemian habits "ingrained in the nature of the men who inhabited most parts of the earth now overspread by the Anglo-Saxon and other civilised races." He then declares that the Bohemian element in our own race is destined to perish, and "the sooner it goes the happier for mankind." I heard almost the same opinion in Germany before the war, and the speaker did not confine himself to general terms but specified the Latin races as the element which he said his countrymen regarded as destined to perish. In that and some other

utterances of Galton's we are reminded that, like most men of great intellectual activity, his mind contained many dissimilar ingredients. With great skill and discernment in literature he combined a lurking contempt for the other arts which perhaps prompted these unsympathetic remarks about Bohemianism. With extraordinary elevation of outlook he was not without a respect for material success, much as his grandfather, though a quaker, made a fortune as a manufacturer of small arms. In the eugenic paradise I hope and believe that there will be room for the man who works by fits and starts, though Galton does say that he is a futile person who can no longer earn his living and ought to be abolished. The pressure of the world on the families of unbusinesslike Bohemians, artists, musicians, authors, discoverers and inventors, is severe enough in all conscience. In well-ordered communities their support should be a first charge on the State. They are literally the salt of the earth, without whom the savour of life would be flat and wearisome indeed. There is no more painful reading than the annual Civil List, which in the name of England allots to genius in distress sums which a Government official or a tradesman would despise.

Broadcloth, Bank balances and the other appurtenances of the bay-tree type of righteousness are not really essentials of the eugenic ideal. My notion of it is the exact contrary. Genetic discovery will put a new power into the hand of man. Will he use it to diminish his scope? Rather I should expect that a recognition of the wholesome teaching of biology would favour a wise and pagan sense of facts, teaching us to see things as they are. That knowledge must surely make for width and generosity, not for narrowness or restraint. Eugenic education should work not like the puritan campaign of Prohibition in America by abolishing one of the most precious and beneficent of pleasures, but rather by the obviation of suffering. With such an example before us we may well dread any development which invests authority with new powers. Prohibition, if it is maintained, will rank among the great disasters which from time to time have checked human progress. It is a reversal of civilisation, a foregoing of the fruits of one of the great discoveries by which man has learned to control nature and make his lot on earth tolerable. To abolish wine because men get drunk is like abolishing steel because men fight with it. Those who perpetrated that act of tryanny will not stop there. Neither tobacco, nor art, nor literature is safe. All this, to be sure, has happened before, but mercifully nothing came of it. Thomas Bowdler, F.R.S., was so convinced of the value of his expurgated Shakespeare and his "purified" Gibbon that he thought no other version would subsequently be published. Bowdler's opinion did not prevail, but in his day propaganda was not invented, and the art of raising waves of emotion for political purposes was imperfectly understood. The success of Prohibition is enough to make us regret the decay of monasticism; for in the Middle Ages uncomfortable people of that kind naturally gravitated into the monkeries, thereafter troubling the laity less.

But though each of us has his personal predilections we can only make rough estimates of the worth of the several types and of their value to the world. Quantitative reckonings are still very far off, and meanwhile we must remain content with academic aspirations, praying

only that in that day humanity may not be measured by the scale which would be appropriate to a Charity Organisation Society or a Board of Guardians, who I am told are able to distinguish the deserving from the undeserving poor.

To those who fear that the prevalence of eugenic ideas may have some such consequence I would remark that though this or some other country may not improbably submit itself to the government of a censorious clique, it will not be by the consent of those who are familiar with biological fact. The limits of responsibility may be clear to lawyers, but to us biologists they are very hazy indeed, and parochial views of man and his destiny do not commonly flourish in a biological atmosphere.

Two entirely different aspects of eugenic policy are to be distinguished. The one is personal, the other public. From the point of view of a young man or woman contemplating marriage it may be disquieting that one or other of the parties may have doubtful elements in their family history. From the point of view of Society it does not follow that the contribution of such a marriage, even if the trouble recurs, must be detrimental. When people discuss this question they usually have in view one of the two commonest family stigmata, tuberculosis or insanity. As regards tuberculosis there is, as yet, no clear proof that special susceptibility is hereditary in the ordinary sense, still less have we any evidence as to the genetic scheme by which it may be transmitted. A moment's reflection will show how difficult it must be to learn anything with certainty on these points. We are concerned with an infective disease, to which the whole race is probably susceptible more or less. Its incidence and course are greatly influenced by climate, occupation and other conditions. In family life continual opportunities of infection occur. To trace the descent of special degrees of susceptibility in regard to such a widespread disease is almost impossible by present methods of investigation. On the eugenic bearing of tuberculosis therefore science has as yet nothing to say, and commonsense not much.

As regards insanity, the forms of mental disease are manifold and still most imperfectly distinguished. Apart from the fact that the pathology of these diseases is obscure, their development may be favoured or hindered by circumstances, and the age of onset is liable to great fluctuations. Hence the compilation of reliable charts of descent is impracticable. We cannot usually tell whether the normal or the abnormal state is the dominant, to use the technical term, and whether the defect can be transmitted by the healthy collaterals or not. Thus no system of descent can be predicated with much confidence, nor can genetic analysis be hopefully attempted in the present state of knowledge. We must remember, however, that even a fact so obvious as the syphilitic origin of general paralysis was only recently established. In former days general paralytics would certainly have been scored as insane, to the utter confusion of the pedigrees. The whole problem may be greatly elucidated by fresh pathological advances.

The existence of family defects may naturally cause anxiety to the persons concerned. They may, however, easily worry unduly

on that account. Encouragement may be derived from many considerations, mainly arithmetical or actuarial, which I cannot now develop. But I would especially emphasize a doubt whether from the point of view of society, which is that in which we are here concerned, families which have suffered from definite stigmata may not contribute at least their proper share to the success and delight of mankind. We should hesitate to assert that either special susceptibility to tuberculosis, or any form of mental instability is associated with genius either directly or collaterally, but the frequency of such association has often been noticed, and I cannot deny that it is sufficient to suggest the reality of some positive connection. At least I imagine that by the exercise of continuous eugenic caution the world might have lost Beethoven and Keats, perhaps even Francis Bacon, and that a system might find advocates under which the poet Hayley would be passed and his friends Blake and Cowper rejected.

In so far as eugenics has yet attracted public notice it is chiefly to such particular problems that attention has been given. They are nevertheless beside the main point. No responsible person is proposing to subject human society to eugenic discipline. But those who would abhor any such proposal have to realise that a biological discrimination is no new thing, but on the contrary an inevitable consequence of almost any considerable legislative change. To make the world appreciate this simple truth I conceive to be the chief function of education in eugenics. Galton was the first to perceive this, or at least to demonstrate it with effect, and to show that whether we like it or not, the social condition of mankind, both physical and intellectual, is the direct product mainly of the working of heredity. He saw that nations, unconsciously by their own acts of policy, favouring one class or discouraging another, change the genetic composition of succeeding generations. Though no such object be in contemplation, they decide the nature of their posterity, just as John Ellman decided the type of sheep with which the pastures of the South Downs should be stocked. The action of the farmer is deliberate, and as the sheep breeds more quickly than man and the matings are controlled, the result is seen much sooner. Also whereas the sheep farmer usually wants only one homogeneous type for his district, human society requires a mixture of a great number of distinct types. There is no other essential difference between the two procedures. We are now, and from the dawn of social government man has always been, interfering and tampering with the composition of his race. All that is new is that we have begun to see something of the ways in which the process works, and to think of it in biological terms. In his various writings Galton gives simple illustrations of this theme. He pointed out how the celibacy of the clergy kept down the numbers of the intellectual strains, since the Church was the only sphere in which such persons could find a congenial career. Again he indicated how in France the strict catholic families, and especially the Bretons, threaten to replace other components of the population for the reason that they obey the Church's ban on the practice of restricting the number of children by methods until lately almost universally adopted by the prudent remainder. These and other similar

examples of the direct racial consequences of customs or laws instituted with altogether different objects will be familiar to you all But the outstanding lesson taught by eugenic education is that the changes which must inevitably follow on *every* considerable interference in the distribution of wealth and of opportunity are ultimately racial. Neither custom nor law can be changed materially without introducing a discriminating influence on the prospects of the several varieties of which society is composed, and the more fully the extreme congenital diversity of the several types is realised, the more will the magnitude and extent of these racial effects become apparent.

Fun is made of the lament of the landed gentry in the last century that the country was going to the dogs, but we see now that they were perfectly right. They were, of course, thinking of their own class. They did go to the dogs and went quickly. Their very names are already partially extinct after a survival of several centuries. Their place is taken by financiers and tradespeople; and could those old gentlemen return to earth, they would see what a country looks like that retains only travesties of the things they valued. I am not concerned with the question whether they and their seed were worth perpetuating or not. I daresay they were a dull lot and their smart successors may be the better men—or women. Many would agree that a Sunday party at the Chequers or Glen was a more satisfactory and recuperative experience than a whole season's shooting with Squire Western. But I merely call attention to the fact that the county families are gone, largely by the operation of genetic process. Conditions supervened in which they could not maintain families and which were favourable to other breeds or "genotypes" as Johannsen calls them. Up and down the earth no doubt the strain exists. We saw many specimens among the Australian troops, descendants of those expropriated families, but those that remain here are, for the most part, merged in the general population, and their ancient homes know them no more.

Dean Inge in his Galton Lecture showed how recent legislation must similarly work for the extinction of the intellectual middle classes. The value of money was suddenly halved as a consequence of measures which the Government improvised in its conduct of the war. The savings of the middle classes, which contributed to their stability, were correspondingly reduced. Being thrifty, as well as intelligent, these classes, though endangered, would before long have reinstated themselves, but further legislation has virtually prohibited thrift, rendering any savings on the modest scale attainable by persons not engaged in trade, altogether futile. The intellectual middle class, numerically by the nature of the case a small body, will therefore be obliterated, giving place to the thriftless majority, and to a class that a breeder might designate as culls.

Concurrently another influence is operating which cannot be without effect on racial composition. By the institution of abundant scholarships and other machinery for detecting and encouraging the abler children, practically every boy or girl in the elementary schools who shows marked mental aptitude is offered an opportunity of continuing education. Many are taking this opportunity. Some will

reach the higher grades of industry, others will take their place among the professional classes. A process of sifting or gleaning is thus going on which must gradually remove, or as some would say raise, the more intelligent elements out of the industrial classes, thereby sensibly lowering the mental capacity of those classes. This consequence, so obvious to any one accustomed to think in genetical terms, was not contemplated by the promoters of the education movement, who commonly regard mankind as a homogeneous plastic substance which can be modelled to taste, unaware that they are in reality disentangling strands of permanently heterogeneous material. This process of disentangling will make for social peace in so far as it tends to allay feelings of discontent based on a real injustice, but it can scarcely postpone the doom of the intellectual class. Indeed their end may thereby be hastened, for the ranks of their destroyers, no longer containing dissentients who might in some degree understand their claims, may then be closed.

We are approaching a phase already reached in the United States, in which society consists of a small number of unstable and transient families possessing fabulous wealth—and the others whose incomes are more or less at the same level, having little or no property to bequeath. Here again it is beside my purpose to inquire whether this distribution makes for collective happiness or the contrary; nor do I know any means by which that question could be answered. But so long as we are divided into nations I have no doubt what the loss of the intellectual class will mean to the prospects of a state striving against equal competitors, or what in the long run it will mean to the development of mankind. That development was arrested for about a millennium by the domination of the Church. It may be suspended indefinitely by the edict of the proletariat. We may have made the world safe for democracy, but we have made it unsafe for anything else. If posterity takes any interest in history they will observe that the unusual feature of the Victorian epoch was not the exceptional distinction of the notables which it produced, for perhaps that was more evident to their contemporaries than it will ever be again, but the truly extraordinary circumstance that at that time intellectual distinction was held in public estimation as a thing of great worth. How and by whose example the mass which is congenitally incapable of appreciating art, literature or science was for a brief interval cowed into doing homage to an unknown god is most difficult to explain, but so it was. The unnatural phenomenon passed quickly by, but it left its trace on the fortunes of the intellectual class, consolidating their position for the moment though inducing a false sense of security and reconciling them to concessions which they can never recall. Released from that momentary enchantment of fashion the people have resumed their proper habits, gratifying their natural tastes in more congenial and less exacting ways. In so far as this is a return to candour and simplicity there is little to regret; but to those who have witnessed the rapid transition from a period when learning, the arts, and even pure science stood high in general reverence, to the present time when science is tolerated as a source of material advantage, when chaos is acclaimed as art, and learning

supplanted by schools of commerce, the rarity not merely of intellectual producers but of intellectual consumers will need no further demonstration. The whole number of such persons in this country scarcely reaches to thousands, scattered sporadically among a population wholly different in tastes and capacity. Their existence is precarious indeed.

Genius it may be said can be trusted to force itself along the destined path, but even genius lives on the hope that some day recognition may come. Hitherto that recognition has been found in the intellectual middle class. But the amenities of life, leisure, reading, travel, social intercourse, are essential preparations for intellectual appreciation of any but the most meagre order, and the practical certainty that a man's contemporaries will not even have leisure to look at his work, let alone cultivation sufficient to appreciate it, may numb the bravest heart. Will they make books when there are none to understand? "What," as Bishop Stubbs lamented, when a friend showed him his library, "what is the use of a library now to me, a man who hasn't time to take a Seidlitz powder?"

The Dean of St. Paul's, with invincible optimism, after pointing out such racial consequences as I have sketched with a weaker hand, concluded by predicting that after these events have passed by, especially after the great decline in population which I agree is to be expected, we shall emerge into a serener atmosphere. I wish I could see so far. Pending the exhaustion of the coal I anticipate a continuance of the new dark age. But without seeking to penetrate the remoter future, we can perceive that interference with racial composition is proceeding under our very eyes, though by the popular imagination any such action is supposed to be possible only in the dreams of a visionary.

I have spoken of the landed gentry as having become almost extinct in this country, and of the probability that the intellectual classes will also disappear. Let us consider by what steps these processes of obliteration are brought about, and what exactly becomes of racial elements thus submerged. It is here that the popular view differs from the genetical. I may illustrate the process by reference to what we know of other breeds that have been lost in consequence of change in the vagaries of fashion. Bull dogs and bull terriers are at the present time two very distinct breeds, each breeding approximately true. By reference to early illustrations and descriptions their history can be made out with fair accuracy. If some fancier nowadays wanted dogs of the pattern that he saw represented in an engraving say of the end of the 18th century, probably no one could supply him. The factorial elements of which those older types consisted no longer exist in combination with each other. The modern bull-dog and bull terrier between them have some of these charactertisics. The Boston terrier might supply others, and among other varieties it might be possible to find missing ingredients such as special colours, or shapes of head or ear. A skilful breeder could, by combining these ingredients, reconstruct a given pattern, provided that no element has wholly disappeared. Observe that the types of bulldogs disappeared through specialisation. If, however, the modern breeds were to

become unfashionable, these types would disappear as many have done in the past, because no one would trouble to breed them. Such offspring as existing dogs might leave would be merged in the general mongrel population. Conceivably our present types could be reconstructed by selection from that mass, but it would be a difficult task. This illustration corresponds in some respects fairly closely with what we see in human strains. For 150 years ago few breeds of dogs had been approximately fixed. There were no club standards and each breeder followed his own ideas. An assemblage of the various dogs in those days would have been exceedingly like an assemblage of say Englishmen at the present time. Some would be, technically, thoroughbred in various respects, others would be wholly mongrel. We have not in our mixed community strains pure for any but the grosser distinctions, but there are plenty of incipient strains. The landed gentry were such an incipient strain. The clerical, educational and especially the theatrical world provide other examples. Readers of *Hereditary Genius* will be aware of more. So long as things go well with them the homogeneity of the strain increases, as that of the professional classes certainly has done in the past 100 years; but if, by Act of Parliament or change of fashion, their special product is made comparatively worthless, not only is their prospect of rearing families diminished immediately, but their caste becomes merged in the general population, and their children will be of a less special type. The statesman, knowing nothing of genetical principles, if he considers the problem at all, perhaps supposes that a displaced type takes to some other occupation. The probable success of these transformations may be estimated by those who will imagine a Clydesdale entering for the Derby, or Mr. Henry Chaplin exchanging parts with his namesake, Charlie.

Until we can make the analyses of the descent of human faculty which have now been proved for so many animals and plants, there will of course be sceptics who take refuge in the defence that human pedigrees follow other rules or no rules at all. Of course there will be intricacies to unravel in regard to the mental faculties, sex-limitation and other difficulties of a technical kind, but if man's generations were annual, in the 20 years that have elapsed since the study of genetics was properly inaugurated, we should already have established an outline of the system of his inheritance. Of the facts hitherto ascertained there is only one which is in any way singular—the comparative frequency of new dominants. That is rather exceptional, though not suggestive of fundamental difference, and it may very well be an illusion due to the attention with which the variations of man have been studied.

We may be perfectly satisfied that the ordinary rules, or rules very like them hold in regard to man, and that in obedience to these rules the intellectual class may disappear, merged in the unsegregated mass of the dominant population, for most of whom any but the most rudimentary effort of the mind is a physical impossibility.

Racial discrimination is, then, in constant progress. Might we not gain by recognizing this fact and allowing it prominence in political philosophy? It is improbable that all states will always be ruled without regard to knowledge. I have said that we have no accurate

method of estimating the value of the several types, nor can we declare the proportions in which each should be represented in a community, but that is no reason for treating populations as though we had still to discover that they are made up of living organisms, obeying certain principles in their propagation. Mathematics has long been recognised as a study helpful to the political economist, and the two sciences have often been pursued in common. I should have thought there was a closer affinity between economics and biology, and I am convinced that biological principles in so far as they relate to the nature of variety, the permanence of type, and the laws of hereditary transmission could not be without influence on economic thought. These phenomena lie at the root of political science.

In so far as economic philosophy is a constructive and applied science it is endeavouring to ascertain by what distribution of wealth and political power the well-being of a nation may be best promoted. Yet in the attempt to solve that intricate problem a knowledge of the biological structure of the community is usually treated as superfluous. The first essentials for any serious investigation of these questions are analytical data as to the distribution of faculty and similar particulars, which our present returns to the Registrar-General do not aim at supplying. To decide from these returns how the birth-rate is distributed among the various grades, even among the various ages, of the parents, is not readily possible. The sudden rise of the birth-rate has been made the occasion of rejoicing on the part of the unthinking. If we could see a parade of the parents who have made themselves responsible for this excess, I wonder if we should take so much pride in their performance, and whether we should not simply see in this output of spawn one more manifestation of the recklessness engendered by a period of spurious prosperity.

The Registrar's returns might be made to give that information, but they do not; because though governments are manipulating living units, social physiology is no concern of theirs. "It is not accurate knowledge that matters," as the late Minister of Reconstruction told you.

Man is from the naturalist's point of view a domesticated and most variable animal, and to make a domesticated species, recently derived from various stocks, into a breed of equal and similar individuals is only possible in the peculiar and highly special circumstances which the fancier can provide. We are a heterogeneous group of dissimilar beings, and it is time that the greatness of this dissimilarity were brought home to all civilised communities. No one perhaps at this time would venture to assert that men are born equal, but few realize *how* unequal they are. By an ingenious calculation Galton found that in many types of competition the difference between the performance of the winner and that of the second man is commonly three times that of the distance separating the second man from the next best, and he concluded that if there are only to be two prizes, the first prize ought to be three times the value of the second prize. That is one expression of the heterogeneity of a mixed population. Has anyone considered the implications of this natural heterogeneity in political economy? Who dare tell voters that?

They must all have prizes. Soon, moreover, the prizes are to be all equal, an episode which must lead rapidly to the grand finale in which there are no prizes at all.

If it be too much to expect that those who aspire to form judgments in the problems of social politics should be trained in biological science, perhaps something might be done by applying those methods of pictorial instruction adopted in elementary schools. Just as the children learn the dissimilarities and attributes of the various animals, the giraffe, the elephant, the bat, and the toad, from wall-pictures, so in the schools of economics, political clubs, and other centres of debate there might be hung graphic representations exhibiting the prodigious diversities of our population. The physical differences would be easy to illustrate in this way, but there must also be graphic representations of the far greater intellectual diversities. Every one knows that people differ, but the towering majesty of great minds, the commanding range and variety of their knowledge, the intensity of their penetration, who shall measure these powers? There is no rod by which the genius of Shakespeare might be translated into feet and inches, but his vocabulary has been counted and perhaps the club orator might be induced to count his own. We cannot sound the depth of Newton, but to learn that the performance of a good Senior Wrangler might be judged by skilled examiners to be twice as good as that of a decent second Wrangler, and 32 times as good as that of a low junior optime would help to give the rest of us some idea where we come in.

I wish Galton had designed a set of such charts, portraying these Kings over all the children of pride. I cannot imagine anything better fitted to teach humility, the only foundation of contentment.

It is not inequalities in the distribution of wealth, or of opportunity, or of political power which are to be deplored, but the totally distinct evil that those inequalities do not follow with sufficient accuracy the congenital inequality of faculty. The inequality of faculty is a natural and physiological fact. It can only be obliterated by measures which would treat genius and capacity as the enemies of mankind. The effort of the social reformer should instead be turned to the means by which reward may be more closely correlated with performance. Under a public opinion which, like our own, rates and rewards commercial success more highly than any other class of achievement, this counsel may sound fatuous enough, but let us at least know the point at which trouble begins.

If we cannot grade the various kinds of excellence in a comparative order of merit there might be general agreement that certain classes of attainment, of which a thoroughly comprehensive schedule could be prepared, should entitle the immediate posterity to some favour. Prizes or allowances for unexceptionable marriages have, I believe, been contemplated, a course which, frankly, I feel would be intolerable. A proper place for recognition is the assessment of the death duties. It is there that considerations of heredity should be allowed their weight. In estimating the proper incidence of the death duties one of the questions to be considered is what fraction of the estate represents the probable deterioration of the offspring from the position reached by

the parent, and thus on eugenic grounds should be forfeited to the State.* Genetic analysis has not nearly reached the stage of successful prediction as to the distribution of faculty among the immediate offspring, but the broad principle that even under a system of random mating the performances of ascendants is an indication of the probable quality of the offsrping would not be questioned by any geneticist. The death duties might be graded in accordance with this expectation. For the present, strict analyses being impossible, cruder methods of estimation must be applied, but I suppose to those who could show 64 quarterings of scheduled excellences this form of taxation might be remitted altogether. With the advance of genetic science I would venture to predict that the same privilege might be extended to those whose first-class quarterings of certain kinds (in the right places) amounted to 8 or even to 4, but that is at present a personal and perhaps heretical opinion. In actual practice the performances of the children would be often ascertainable, and might be brought to account in the calculation of the assessment.

The problem of the Upper House might be treated on similar principles. What is wrong is not that the House of Lords is constituted on a hereditary basis, but that without further proved qualification the privilege of membership is extended in perpetuity. Lancashire reckons three generations from clogs to clogs, and perhaps three generations from commoner to commoner might represent the actuarial expectation under a system of almost random mating, which, by the way, is not prevalent in the peerage. But it would be not impossible here also to compile a schedule of various attainments which, on either side of the parentage might justify a renewal of the prerogative for a further life or lives.

To give quantitative expression to these values might be difficult but it would not be unattainable. I imagine to Galton himself it would have been fairly easy. His genius showed itself especially in the ease with which he found numerical measures for differences which to the ordinary mind seemed qualitative and incapable of anything like exact estimation. In his definition of the "eminent" man as being the foremost in 4000 and the "illustrious" as being the best in a million, an estimate which he tested and justified by various independent methods, he showed the lines on which such estimations should be attempted.

There are plenty of ways in which common sense might be applied to racial problems. That we shall see any such application in our own country seems to me in a high degree unlikely. But we are not the only nation in the world, and a competitor may not improbably learn from us, appropriate our discoveries, and enter into our labours. The consequences of bringing biological knowledge to bear on the composition of society must be enormous, rapidly accomplishing aims of a magnitude that statesmen perhaps have never conceived. Our own concern in these developments will probably be that of spectators. Equality of political power has been bestowed on the lowest elements of our population. This is nearing the final stage

*The French law which forbids the alienation from the family of more than a minor part of an estate has much to commend it.

of democratic decay, in which the lowest not only have the power but exercise it, a sequel which the next generation may witness. I am not aware that any community so heterogeneous as our own has ever made this experiment. Our immediate posterity will learn something of the consequences of un-applied biology. The force of the intellectual and professional class is assuredly prodigious and there is a bare chance that they may exert it in some co-ordinated form, against which the rest could of course offer no effective resistance. Recent history does not encourage us to expect that any such thing will come to pass. The truth has been recognised too late.